

How to create scrolling backgrounds in Pygame

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Scrolling backgrounds can greatly enhance the visual appeal and depth of the game. Chung can create illustrations for motion, bringing the game to life and engaging. You can create a scrollable background in just a few easy steps using Pygame.

Create a simple game

To understand the concept of a scrolling background in Pygame, start by creating a simple game where the player can move left and right. You can also include 2 platforms, represented by rectangles, representing the game environment. Create a new file named **simple-game.py** .

First, import the **pygame** module and initialize it. Then determine the player's starting position and movement speed. **Create platforms using pygame.Rect** objects and specify their position and size.

Inside the game loop, handle events such as game exit. You can also handle player movement based on input or touch.

Result:



Create different layers

To get the scrolling effect, you can create multiple background layers with different colors. Each layer will move at a different speed, creating a parallax effect. This effect creates the illusion of depth and enhances the sense of movement in the game.

Define two background layers, one that covers the entire game window, using `pygame.Rect` objects. Alternatively, choose a color for each layer in the `background_colors` list. The `background_speeds` list defines how fast each layer will move.

```
# Thêm code này vào phần tr??c ?
ó background_layers = [ pygame.Rect(0, 0, screen_width, screen_height), pygame.R
```

Add background scrolling effect

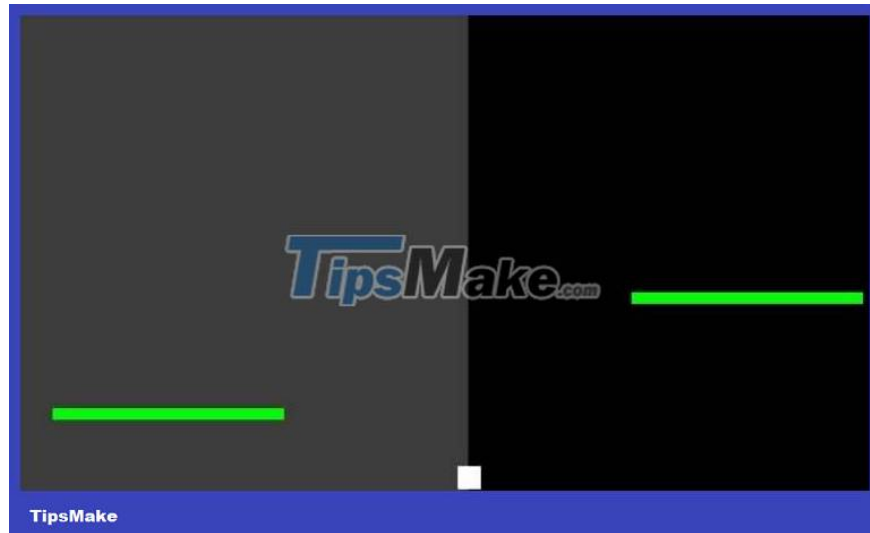
To create the background scrolling effect, you need to update the position of the background layers in the game loop. You will move each layer vertically based on the specified speed.

Create a new file named `scrolling-bg.py` and add this code with the updates below:

```
for i in range(len(background_layers)): background_layers[i].x -= background_spe
```

Loop through each background layer. Subtract the corresponding speed from that layer's x coordinate, causing it to move left. If the layer reaches the left edge of the screen, reset its position to the right, creating a continuous scrolling effect.

Finally, draw each rectangular background layer on the screen using `pygame.draw.rect()` and colorize & `pygame.Rect` object accordingly.



Added parallax effect while moving

To enhance the parallax effect, you can edit the platform motion that occurs when the player is moving. This will create a clear sense of depth and fluid movement. Create a new file named **parallax.py** and add the code and updates below:

```
# Xác định vị trí và tốc độ của  
a platform rect1 = pygame.Rect(50, screen_height - 100, 200, 10) rect2 = pygame.Rect(50, screen_height - 100, 200, 10)  
?p game # Chuyển động của người chơi  
i keys = pygame.key.get_pressed() if keys[pygame.K_LEFT] and player_x > 0: player_x -= 1
```

Present the platforms as a dictionary containing both rectangular objects and the speed at which the platform will move. The platform updates in the game loop based on the player's movements.

By perfecting this tweak, the scrolling effect will only work when the player is actually moving, enhancing the sense of depth and dynamics.

Above is **how to create a scrolling wallpaper for the game using PyGame**. Hope the article is useful to you.

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